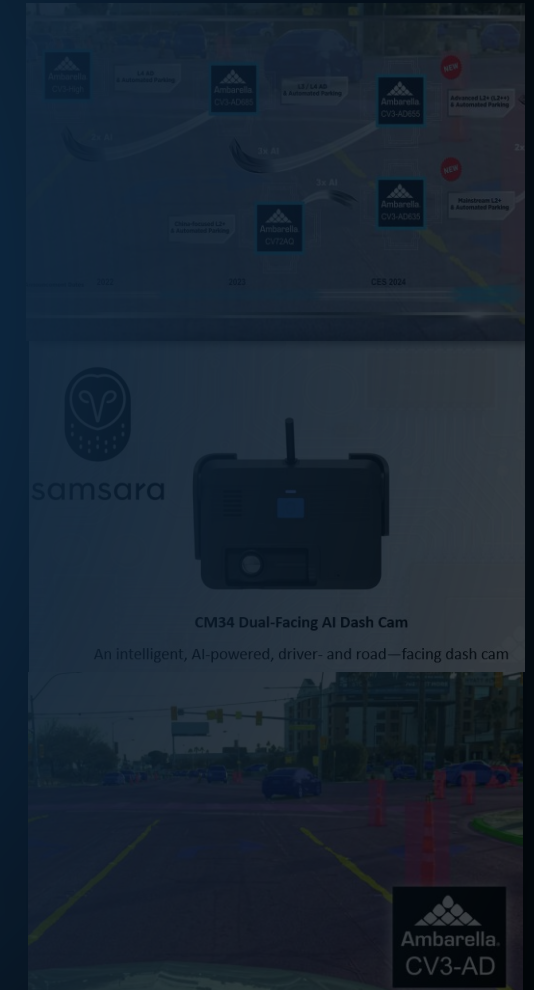December 4, 2024

Wells Fargo 8th Annual TMT Summit

Terranea Resort, Rancho Palos Verdes

John Young, CFO

Louis Gerhardy, VP Corporate Development

Forward-Looking Statements

This presentation contains forward-looking statements that are subject to many risks and uncertainties. All statements made in this presentation other than statements of historical facts are forward-looking statements, including, without limitation, statements regarding Ambarella's strategy, future operations, financial targets, future revenues, projected costs, prospects, plans and objectives for future operations, future product introductions, future rate of our revenue growth, the size of markets addressed by the company's solutions and the growth rate of those markets, technology trends, our ability to address market and customer demands and to timely develop new or enhanced solutions to meet those demands, our ability to achieve design wins, our ability to build and deliver products to customers, and our ability to retain and expand our customer and partner relationships.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential," or the negative of those terms, and similar expressions and comparable terminology intended to identify forward-looking statements. We have based forward-looking statements largely on our estimates of our financial results and our current expectations and projections about future events, markets and financial trends that we believe may affect our financial condition, results of operations, business strategy, short term and long-term business operations and objectives, and financial needs as of the date of this presentation. Although these forward-looking statements are based upon information available at the time the statements are made and reflect management's good faith beliefs, forward-looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to differ materially from anticipated future results. Important factors that could cause actual results to differ materially from expectations are disclosed in Ambarella's annual reports on Form 10-K and quarterly reports on Form 10-Q filed with the Securities and Exchange Commission (the "SEC"), particularly in the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." You should not place undue reliance on forward-looking statements, which speak only as of the date on which they are made. We do not undertake to update or revise any forward-looking statements after they are made, whether as a result of new information, future events, or otherwise, except as required by applicable law. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Before you invest, you should read the annual and quarterly reports and other documents Ambarella has filed with the SEC for more complete information about the company and its ordinary shares. Additional information will also be set forth in Ambarella's future quarterly and annual reports and other filings made with the SEC from time to time. You may access these documents for free by visiting EDGAR on the SEC web site at www.sec.gov.

Ambarella Overview

Advanced edge deep learning AI inference hardware and software

Santa Clara, CA *Company HQ* — Detroit — Dayton — Munich — Parma *VisLab* — Shanghai — Seoul — Tokyo — Hsinchu — Shenzhen

Ambarella 928+

HEADCOUNT

CV3-AD 928+

Founded on the premise that video is a unique type of data requiring an optimized SoC architecture

- Ambarella's deep neural network AI inference processor integrated with a state- of-the-art video & radar perception yields highly optimized domain controller SoCs
- VisLab, a pioneer in CV and autonomous driving software, acquired in 2015
- Oculii, a pioneer in high-definition radar perception technology, acquired in 2021
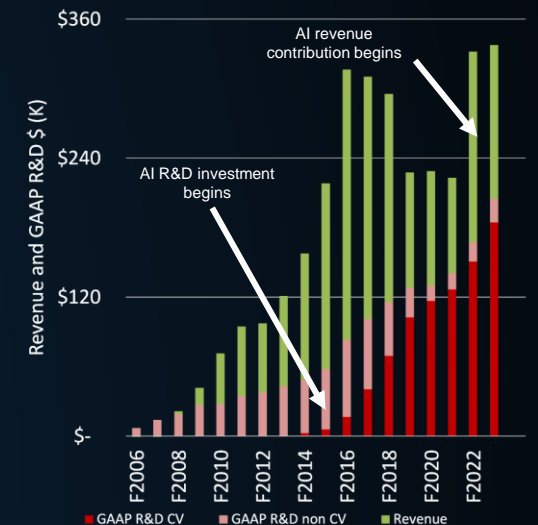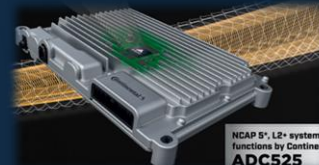
World-class engineering team

- **~525** software, algorithm and image processing engineers globally
- **2nm** in development, **5nm** in mass production, **10nm** ~60% of revenue
- **>10yrs** of flawless VLSI execution with step "A" silicon into production

Edge AI revenue driven by computer vision today and advanced networks, including GenAI, are enabled with our 3rd generation products sampling today

- Low-power and high-performance SoCs for auto and IoT markets
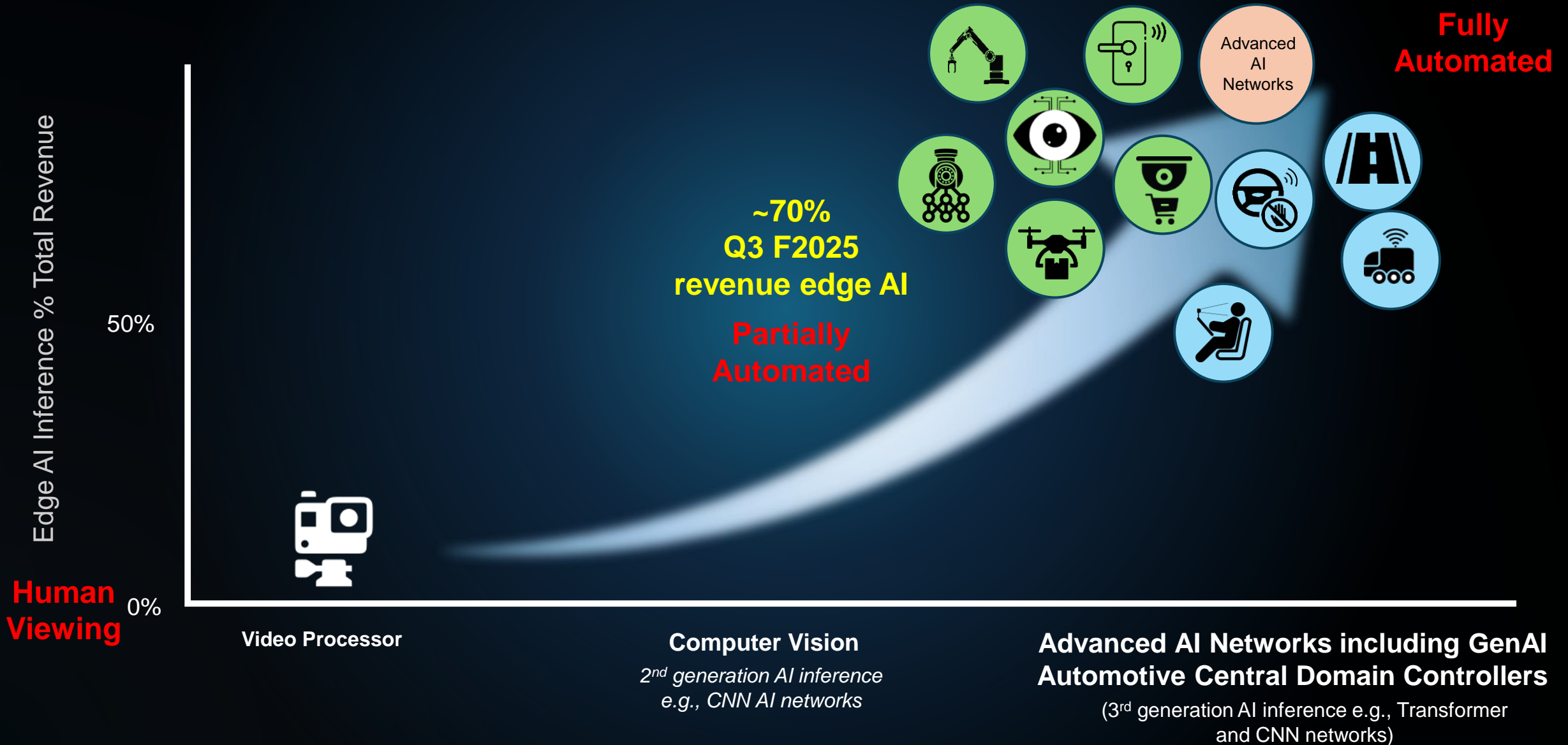- Scalable family allows SW to be reused across a customer's portfolio

Significant R&D investment funded by operations and strong balance sheet

- >$1.2 billion cumulative R&D investment into AI
- $227 million net cash; no debt; 16 consecutive years of positive operating cash flow

2024
~25M AI SoCs shipped cumulatively

2021
Acquisition of
OCULii

2015
Acquisition of
VISLAB

2012
IPO, NASDAQ: **AMBA**

2004
Ambarella founded

AI revenue contribution begins

AI R&D investment begins

Revenue and GAAP R&D $ (K)
$360
$240
$120
$-
F2006 F2008 F2010 F2012 F2014 F2016 F2018 F2020 F2022

■ GAAP R&D CV   ■ GAAP R&D non CV   ■ Revenue

AVIGILON

NCAP 5*, L2+ system functions by Continental
ADC525

Edge AI Inference the Foundation for Our Growth

Successfully leveraging perception heritage into multiple high value deep learning AI inference applications

Fully Automated

Advanced AI Networks

~70% Q3 F2025 revenue edge AI

Partially Automated

Edge AI Inference % Total Revenue

50%

0%

Human Viewing

Video Processor

Computer Vision

2nd generation AI inference e.g., CNN AI networks

Advanced AI Networks including GenAI Automotive Central Domain Controllers

(3rd generation AI inference e.g., Transformer and CNN networks)
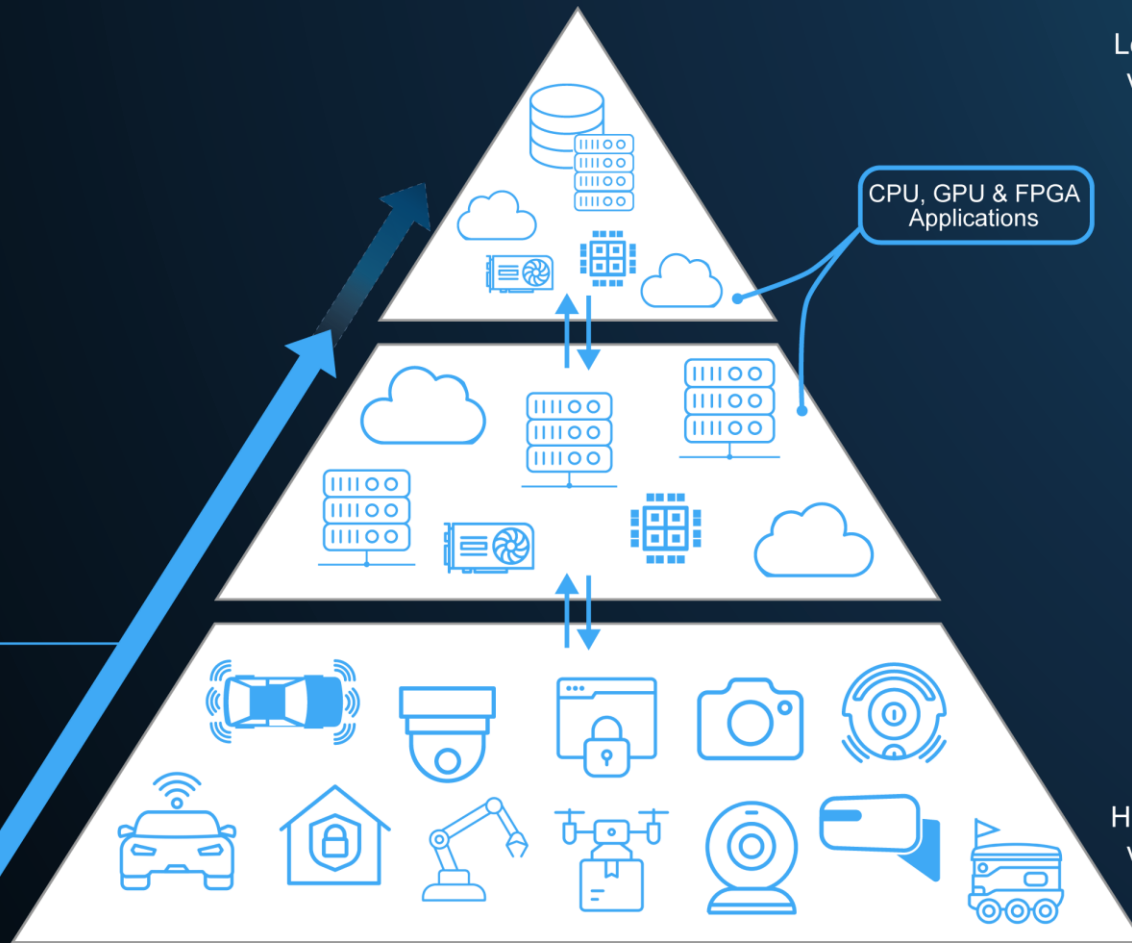
Edge AI Demands a Fundamentally Unique Processing Architecture

Higher levels of efficiency and new capabilities enabled with edge AI

Cloud
Data Centers

Network Edge
Network Computing

Ambarella®
AI envisioned™

Application Edge
IoT Endpoints

CPU, GPU & FPGA Applications

Lower unit volumes

Higher unit volumes

Edge AI enables:

- Privacy and security

- Realtime processing

- Reduce network bandwidth requirement

- Low power consumption

- Synergies between cloud and edge AI processing – AI processing throughout the network hierarchy
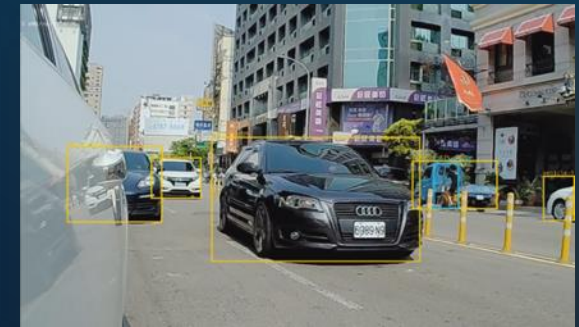
Ambarella's "Algorithm First" Approach
Differentiated approach enables superior efficiency and scalability

Superior Image Quality - AI-based Computer Vision & Radar Processing

"Algorithm First" Approach
Programmable AI Platform
with Optimized Acceleration

Image Processing & Compression

Autonomous Driving

Radar Processing

CVflow - Deep Neural Network AI processor

17 years of Image Processing and Compression Experience

25 years of Autonomous Driving Experience

Oculii Patented Adaptive AI Radar Algorithms

CVflow® - Superior AI Performance Per Watt

Scalable Deep Learning AI Inference Processor Portfolio

Integrated SoC (AI accelerator + perception processing) offers superior AI performance per Watt

5nm Samsung

CV3-AD family of central domain controllers

AI Inference SoCs

3rd generation; AI
(e.g., Transformer and CNN AI networks)

Ambarella CV75S	Ambarella CV72	Ambarella CV3-AD635	Ambarella CV3-AD655	Ambarella CV3-AD685	Ambarella N1
2024S	2024S	2024S	2024S	2023S	2022S
~1.5x CV22 AI ✓	~6x CV22 AI ✓	~13x CV22 AI ✓	~27x CV22 AI ✓	~80x CV22 AI ✓	~160x CV22 AI ✓

10nm Samsung

2nd generation; AI
(e.g., CNN AI networks)

Ambarella CV28	Ambarella CV25	Ambarella CV22	Ambarella CV22FS	Ambarella CV2	Ambarella CV2FS	Ambarella CV5/52
Feb 2021P	Jul 2019P	Dec 2018P	Apr 2021P	Aug 2019P	Apr 2021P	2022P
¼ of CV22 AI	½ of CV22 AI	Baseline (CVflow DNN AI)		4x CV22 AI	2x CV22 AI	3.5x CV22 AI ✓

Human Viewing

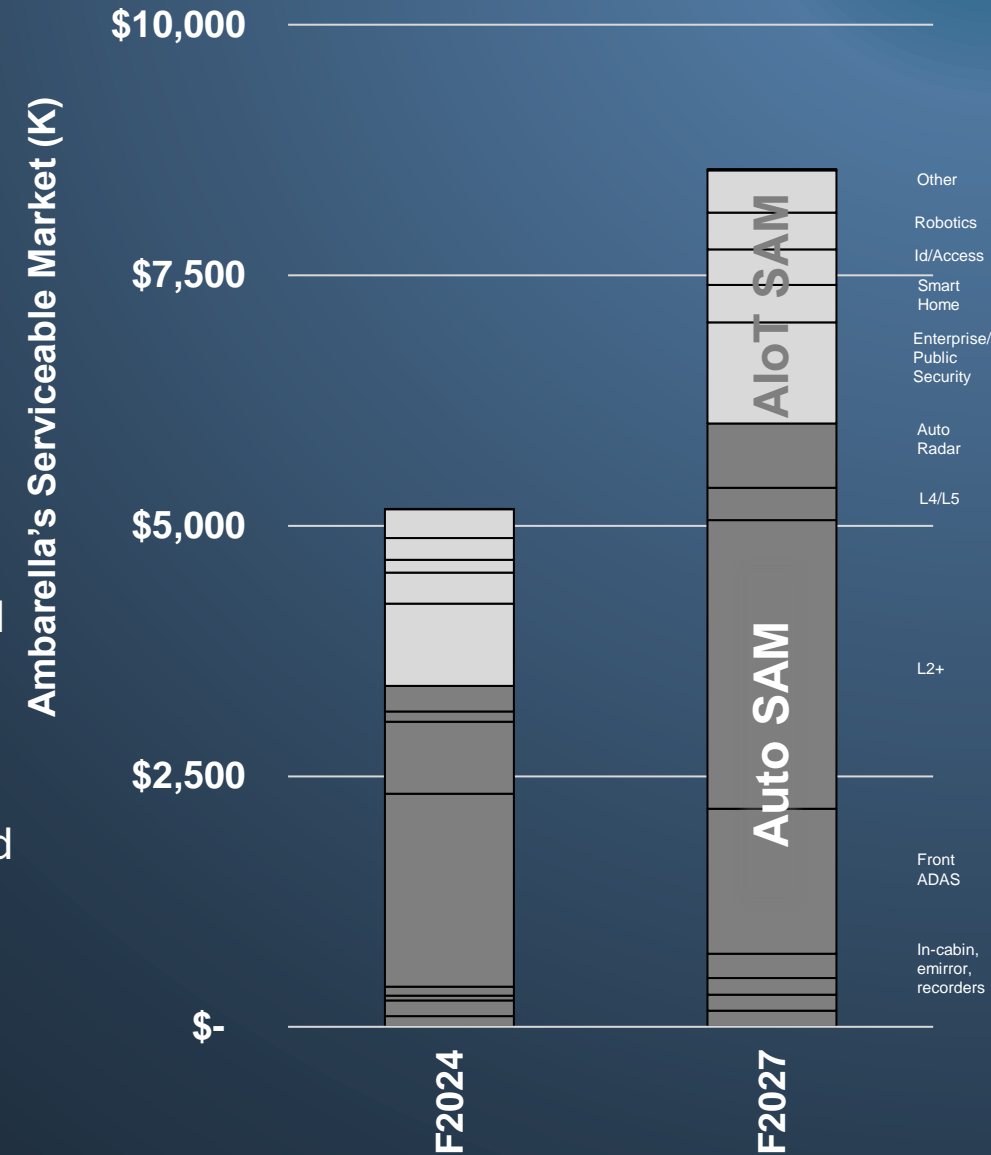| Ambarella H22	Ambarella S5L	Ambarella H12	Ambarella S3L	Ambarella A12	Ambarella S2L

"New Products" ✓
20xx = Calendar Year
P = Production
S = Sample

Large and Growing Markets

Serviceable market ("SAM") revenue CAGR in the high teens

- **F2024 revenue was ~34% Auto and ~66% IoT**

- **F2028 revenue SAM estimate ~70% Auto and ~30% IoT**

- **We are focused on AIoT edge applications,** including both edge endpoints and edge infrastructure systems (e.g., AI box, edge server)

- **We address the megatrends of security, safety, and automation**

- **Key driver is to enable electronic systems to perceive the world and make intelligent decisions**; human viewing business expected to decline as a proportion of revenue

- **AI has triggered new product cycles** in existing IoT markets and opened **entirely new opportunities** in the auto and IoT markets

  - Advanced AI networks, including GenAI, are expected to be an important new product cycle

SAM estimates do not include autonomous driving software, advanced networks nor Generative AI ("GenAI")

Ambarella's Serviceable Market (K)

Bar chart axis labels: $10,000 / $7,500 / $5,000 / $2,500 / $-

F2024 bar segments; F2027 bar segments labeled Auto SAM and AIoT SAM.

AIoT SAM segment labels (top to bottom): Other, Robotics, Id/Access, Smart Home, Enterprise/Public Security

Auto SAM segment labels: Auto Radar, L4/L5, L2+, Front ADAS, In-cabin, emirror, recorders

Source: Ambarella, ABI, Gartner, IHS, Strategy Analytics, TSR

Automotive Applications

~34% of fiscal 2024 revenue

Majority of our F2024 Auto Revenue in ADAS

Goal: Intersect at L2+ with CV3

	Visualization Human Viewing + Recording	ADAS Sensing + Viewing + Recording		Autonomous Driving Part-time	Full-Time
	Dataloggers, Drive Recorders (pre-install, dealer-fit, aftermarket)	**Front ADAS** (front facing camera L0 to L2)	**Other ADAS** (emirror, in-cabin (DMS, OMS) access, personalization)	**L2+**	**L4**
C2023 market penetration (% of new vehicles produced globally)	~15%	~70%	~1% other ~4% emirror ~15% in-cabin	~3%	~0.1%
C2023 → C2027 Ambarella SAM*	$275M → $400M	$1.6M → $1.3B	$200M → $500M	$500M → $2.5B	$200M → $900M
does not include SW stack					
Ambarella Processors	Human Viewing	2nd Generation AI		3rd Generation AI	
Other Ambarella Products				**CV3-AD Platform includes:** CV3-AD SoCs • 4D radar perception SW • End-to-end AI SW Stack	

Application

Products

TOYOTA · NISSAN · Continental · Panasonic · RIVIAN · GENTEX CORPORATION · samsara

AIoT Applications

~66% of fiscal 2024 revenue

AIoT
(F2024 AIoT revenue 100%)

"Security"
(~80%)

Enterprise "Security"
(~60%)

Home "Security"
(~20%)

Other
(~20%)
- Access Control
- Drone
- Portable Video
- LLMs
- Multi-modal
- Robotics
- Videocon.
- VR
- Wearable

- **IoT historically camera-based human viewing and endpoints**
  - 2nd gen AI SoCs now a majority of revenue and typically process CNN networks, enabling machine sensing + human viewing → ~CV2 ASP 2x video processor ASP
  - 3rd gen AI SoCs add transformer network processing support. Expected to enable entirely new applications, potentially expanding SAM deeper into the network → further increase in ASP anticipated

- **Enterprise currently the largest security market**
  - Global installed base in C2023 estimated to be 1.1 billion cameras with <10% based on embedded deep learning SoCs
    - Installed base growing low single digits Y/Y (AI a key driver)
    - Annual unit demand heavily influenced by replacement units (AI a key driver)
  - Consistent with our revenue, we estimate a majority of the installed base is represented by enterprise + public capital expenditures, the balance home spending

- **Other AIoT includes emerging advanced AI networks (e.g. CLIP, VLM, LLM, GenAI, multi-modal) and legacy**
  - 2nd gen and 3rd gen AI SoCs are enabling entirely new applications, including access control, consumer cameras, fixed and mobile robotics and virtual reality
  - GenAI represents both a new product cycle and an extension into new markets as larger models can be condensed into smaller, more efficient models at the edge
    - N1 serves the "missing middle" for 3B to 50B parameter models such as Llama-v2, Gemma, Phi-2 and CLIP in network infrastructure HW
    - CV7 family addresses <3B parameter models including within an endpoint
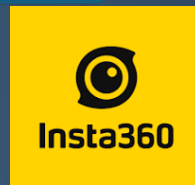
6-Year Automotive Revenue Funnel 5.0 ~$2.2 Billion

Methodology unchanged: six years (F2026 to F2031) with discount factors to estimate net auto revenue

- **Our 6-year automotive revenue funnel 5.0 is ~$2.2 billion ($2.4 billion the prior year)**
  - "Won" of $800 million (similar with prior funnel 4.0)
  - "Pipeline" of $1.3 billion (~$1.6 billion with prior funnel 4.0)
  - About $2 billion not included in the funnel beyond year six, the terminal year of our methodology

- **The $2.2 billion six-year funnel, although reduced, remains an indication of the strong revenue growth we anticipate from the auto market, given our F2024 revenue of ~$77 million**

5.0 = $2.2B

- **Significant revisions between funnel 5.0 and funnel 4.0 due to changes in OEM/T1 forecasts, project delays or cancellations, projects won or lost and the addition of new projects**

- **Automotive market increasingly challenged in the last year**
  - Global vehicle production growth is slow
  - L2+ market penetration remains in the low single digits
  - OEM projects and software development are delayed

won

pipeline
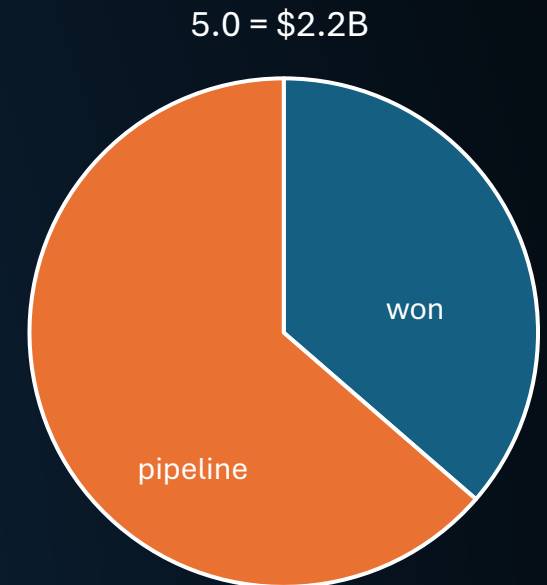
November 2024

Q3 F2025 (October) Representative Customer Engagements
Ambarella's edge AI inference products are enabling many new use cases

19 new models with CV22

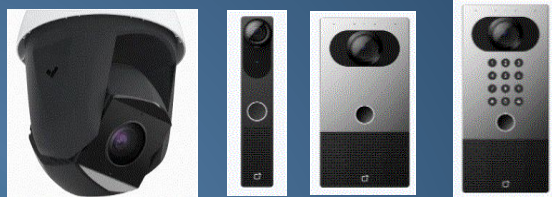Rearview mirror/display with A12

CV22 enabling multiple AI use cases

CV28 for left and right exterior mirror replacement

CV2FS for ADAS with US Global T1

Multiple enterprise security + access control products based on CV72 and CV25

CV5 in state-of-the-art portable video camera

Mapmaking with CV5

ADAS for Trucks with CV22AQ

Q4 (January) F2025 Outlook and Q3 (October) F2025 Recap
Q4 fiscal 2025 outlook and Q3 fiscal 2025 results provided November 26, 2024

Q4 F2025 (January, 2025) Outlook
- Our Q4 revenue guidance is $76.0M to $80.0M (consensus estimate ~$69.4M on Nov. 25th) with AIoT and Auto both flat to slightly down sequentially
- For F2025, we expect total revenue of $276.9M to $280.9M, up 22% to 24% (consensus estimate on November 25th was $266.6M or up 18%)
- Q4 non-GAAP gross margin estimated to be 61.5% to 63.0% (consensus 62.9%) with non-GAAP operating expense $49.0M to $52.0M (consensus $50.8M)

Q3 F2025 (October, 2024) Results
- Revenue of $82.7M was above the high-end of our guidance range of $76.0M to $80.0M (consensus estimate ~$79.0M)
- Non-GAAP gross margin was 62.6% versus the consensus estimate of 63.2% and non-GAAP operating expense was $49.1M (consensus $50.0M)
- Non-GAAP earnings per share were $0.11 versus the consensus estimate for earnings per share of $0.04

Multi-year transformation underway; geopolitical risks remain elevated
- AI is becoming pervasive, we are embedding it in all our new products and we have growing evidence of market acceptance
- We see a wide variety of risks outstanding, including geopolitical and supply chain factors. These risks include*:
    - potential export regulations on advanced technologies
    - market share shifts between our customers
    - the evolution of new markets and rates of adoption of new technologies
    - supply chain issues such as long lead times, shortages of materials, components, electricity and manufacturing capacity, the sell-out from our customers own sales channels and adverse weather conditions
    - changes to tariffs and/or the Entity List
    - the risk customers in China continue to take actions to reduce their dependence on components they believe could be subject to new export controls, including the creation of dual China/non-China supply chains

Potential risk factors that could affect our financial results are more fully described in the documents that we file with the SEC, including annual reports on Form 10-K and quarterly reports on Form 10-Q.

Ambarella
AI envisioned™

Thank you!

www.ambarella.com

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VP, Corporate Development

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